FlyBy Math™ Alignment
Nebraska Mathematics Standards – Dec. 2000

12.2 COMPUTATION/ESTIMATION

Standard	***FlyBy Math*™ Activities**
12.2.1 By the end of twelfth grade, students will solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
12.2.2 By the end of twelfth grade, students will justify solutions to mathematical problems. Example indicator: • Write an explanation based on the context of the problem stating why the solution is reasonable.	--Predict outcomes and explain results of mathematical models and experiments. --Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.

12.4 GEOMETRY/SPATIAL CONCEPTS

Standard	***FlyBy Math*™ Activities**
12.4.4 By the end of twelfth grade, students will apply coordinate geometry to locate and describe objects algebraically. Example indicators: • Graph a geometric shape and determine the slope of the sides. • Identify the missing vertices of a polygon.	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

12.6 ALGEBRAIC CONCEPTS

Standard	***FlyBy Math*™ Activities**
12.6.3 By the end of twelfth grade, students will solve problems involving systems of two equations, and systems of two or more inequalities. Example indicator: • Solve systems by graphing, substitution, elimination or matrices.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.

12.6.4 By the end of twelfth grade, students will solve problems using patterns and functions. Example indicators: • Apply direct and indirect variations. • Recognize the properties of families of functions. • Recognize patterns of exponential growth and decay and their significance to real-life situations. • Represent a problem in multiple formats (words, tables, graphs, and symbols).	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs.